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ABSTRACT

This document comprises a study of the involvement of 1989 graduates of the Columbus (Ohio) Public Schools in compensatory education programs available in kindergarten through grade eight funded under Chapter 1 of the Education Consolidation and Improvement Act. Program involvement is categorized on the basis of pupil attendance; students eligible for program service are considered treated based on their attendance records. Student file data from 1975 through 1989 were analyzed to determine which 1989 graduates had been served or had received treatment during those years. The following major findings are reported: (1) of the 3,298 graduates, 1,045 (31.7 percent) received program service and 890 (27.0 percent) received program treatment for at least one year; (2) more than half of those receiving services were served for an average of 2.2 years and more than half of those receiving program treatment received an average of 1.9 years of treatment; (3) graduates exhibited 210 different patterns of grades during program service and 162 patterns during program treatment; (4) approximately one-tenth of all graduates who received either program service or program treatment did so only in grade four, and no other grade pattern was as common; and (5) approximately four percent of the graduates served or treated for more than one year participated in kindergarten and grade one. Twenty-two tables of statistical data are included. (FMW)

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Report of the Title I/Chapter 1 Services Received by Graduates of the Columbus Public Schools

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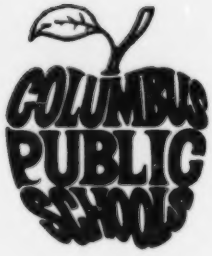

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Abstract

Introduction: The Department of Program Evaluation of the Columbus Public Schools received a grant to study the involvement of 1989 graduates of the Columbus Public Schools in Title I/Chapter 1 programs during their educational careers. Title I/Chapter 1 program involvement is separated into the categories of program service and program treatment on the basis of pupil attendance. A pupil who is served by Title I/Chapter 1 and who also meets the program attendance criterion is said to have received program treatment.

Research Questions: The following research questions have been identified for this study. What portion of the 1989 graduates received Title I/Chapter 1 service and treatment during their educational careers? How are their years of service and treatment distributed? Are there patterns of service and treatment provided to the 1989 graduates?

Method: For purposes of this study, students who graduated from high school during the winter, spring, and summer of 1989 were identified. Program Evaluation Department files for each year from 1975 through 1989 were searched to determine which graduates were served in or received the treatment of a Title I/Chapter 1 program during those years. A file containing service and treatment information about all graduates was compiled and analyzed to answer the research questions identified for this study.

Major Findings: Columbus Public Schools graduated 3,298 pupils during 1989. For the years during which these graduates were enrolled in the Columbus Public Schools, a variety of programs were available to them during kindergarten through grade 8 only. These include programs designed to improve either reading or mathematics achievement. District files reveal that 1,045 (31.7%) of the 3,298 graduates were served by a Title I/Chapter 1 program and that 890 (27.0%) received program treatment for at least one year. The maximum of both years of service and years of treatment was nine. More than half of the pupils receiving services were served during two or more years, and more than half of those receiving program treatment received multiple years of treatment.

Graduates exhibit 210 different patterns of grades during program services and 162 patterns during program treatment. A single year at grade four was the most common pattern of both service and treatment, comprising approximately one tenth of each group. Kindergarten and grade 1 was the most frequent of two-year patterns and was exhibited by slightly more than 3% in each case. When patterns are separated by level into elementary and middle school categories, those which dominate shift slightly. Grade 4 only remains the most prominent of elementary service and treatment patterns comprising 121 (13.0%) of the 928 pupils with elementary service and 125 (16.0%) of the 782 pupils with treatment during elementary school. Grades 4 and 5 becomes the most frequent of two-year service and treatment patterns and is exhibited by 46 (5.0%) of elementary served pupils and 34 (4.3%) of the elementary pupils receiving program treatment. One year of involvement at grade 6 is the most common of middle school service and treatment patterns. It is exhibited by 194 (54.2%) of the 358 graduates receiving middle school program services and by 170 (57.0%) of the 298 graduates receiving middle school program treatment.

Summary: Nearly one third of all 1989 graduates of Columbus Public Schools received Title I/Chapter 1 services during their educational careers, and more than one fourth received program treatment. For the 1,045 pupils who were served by a program, the average of their years of involvement was 2.2 years. For the 890 pupils who received program treatment, the average of their years of treatment was 1.9. Patterns of program service and treatment varied greatly. Approximately one tenth of all graduates who received program services or treatment did so only in grade 4, and no other grade pattern was as common. The most often experienced grade pattern including more than one year was a combination of kindergarten and grade 1 and accounted for less than 4% of the graduates who received program services or program treatment.

Introduction

The Department of Program Evaluation of the Columbus Public Schools received a grant to study the involvement of 1989 graduates of the Columbus Public Schools in Title I/Chapter 1 programs during their educational careers. Title I/Chapter 1 program involvement is separated into the categories of program service and program treatment on the basis of pupil attendance. A pupil who is enrolled in a program and attends one or more days while the program is in operation is said to have received program service. A pupil who is served by Title I/Chapter 1 and who also meets the program attendance criterion is said to have received program treatment. Details regarding program availability during the years of this study are delineated in the major findings of this report.

Research Questions

The research questions identified for this study are as follows:

1. What portion of the 1989 graduates were served by Chapter 1 during their educational careers?

2. What portion of the 1989 graduates received Chapter 1 treatment during their educational careers?

3. What is the distribution of years of Chapter 1 services provided to 1989 graduates?

4. What is the distribution of years of Chapter 1 treatment provided to 1989 graduates?

5. Are there patterns of services provided to 1989 graduates?

6. Are there patterns of treatment provided to 1989 graduates?

Method

Data regarding the participation of students in compensatory programs for each school year are recorded on computer tape in the Program Involvement Files (PIF) system maintained by the Department of Program Evaluation of the Columbus Public Schools. Data maintained in the records of the PIF files identify students who receive service in Title I/Chapter 1 and provide the attendance information required to determine if each student attended the program for a sufficient period to be considered to have received program treatment.

For purposes of this study, students who graduated from high school during the winter, spring, and summer of 1989 were identified. The PIF files for each year from 1975 through 1989 were searched to determine which graduates were served in or received the treatment of a Title I/Chapter 1 program during those years. A file containing service and treatment information about all of the graduates was compiled and analyzed to answer the six research questions listed.

Major Findings

The Columbus Public Schools graduated 3,298 pupils during 1989. Demographic information about these pupils was obtained from the district's Student Master File and is summarized below.

Table 1

Gender and Ethnic Group Distribution
of 1989 Columbus Public Schools Graduates

		Ethnic Group					
Gender		Non-Minority	Black	Spanish Surname	Asian American	Total N	Total %
Female		862	891	4	37	1794	54.4
Male		781	665	8	50	1504	45.6
Total	N	1643	1556	12	87	3298	
	%	49.8	47.2	.4	2.6		100.0

Table 2

Year of Birth of 1989 Graduates

Year of Birth	Number of Pupils	Percent of Graduates
1953	1	.0
1965	1	.0
1966	2	.1
1967	6	.2
1968	28	.8
1969	180	5.5
1970	1232	37.4
1971	1821	55.2
1972	27	.8
Total	3298	100.0

For the years during which these pupils were enrolled in the Columbus Public Schools, a variety of programs were available to them. For ease of reading, school years will be designated by the year in which school ended. Thus, the 1976-77 school year will be termed as 1977 throughout this report. Program names, years offered, number of days of operation, and minimum days of attendance required for program treatment are displayed in Table 3. The table includes only those programs in which at least one of the 1989 graduates was enrolled. Of interest to the reader are the following facts about program offerings. Students qualify for compensatory education by scoring at or below the 36th percentile on a nationally standardized test of achievement in a designated instructional area. Compensatory programs are provided at those buildings with the highest percentage of children from low income families.

This limits program services to qualifying students who attend designated buildings. These building limitations affect the number of pupils served and, combined with student mobility, influence the treatment of served pupils. That is, a pupil receiving program services could attend school on 80% of program days but fail to meet the attendance criterion if a move placed the pupil at a building where services were not offered. The number of days of attendance required for program treatment was 70% of the days a program was in operation during 1975 and 1976 and increased to 80% for the remaining years. No Chapter 1 programs were offered at high school level (grades 9 through 12) during the years that these pupils were in high school. While programs were offered to assist pupils in reading or in mathematics, 1979 through 1982 were the only years during which these pupils were in grades at which mathematics programs were offered.

Table 3

Title I/Chapter 1 Programs
Which Served 1989 Graduates

Program Name	Year	Days of Program	Attendance Criterion
All Day Kindergarten	1975	168	118
	1976	167	117
	1977	149	119
	1978	122	98
Comprehensive Language Experiences and Reading (CLEAR) - Grades K-5	1975	173	121
	1976	172	120
	1977	151	121
	1978	127	102
	1979	128	102
	1980	140	112
	1981	135	108
	1982	139	111
	1983	140	112
CLEAR Computer Assisted Instruction - Grades 4-5	1983	140	112
	1984	138	110
CLEAR - Grades 6-8	1981	135	108
	1982	139	111
	1983	140	112
	1984	138	110
	1985	132	105
CLEAR Computer Assisted Instruction - Grades 6-8	1983	140	112
	1984	138	110
	1985	132	105
Basic Mathematics Improvement - Grades 4-6	1979	133	106
	1980	140	112
	1981	135	108
	1982	139	111

District files reveal that of the 3,298 graduates, 1,045 (31.7%) were served by a Title I/Chapter 1 program for one or more years and that 890 (27.0%) received program treatment. The years during which program involvement occurred were 1975 through 1985, inclusive. Table 4 provides gender and ethnic group distribution of the 1,045 graduates who received program services. A comparison of Tables 1 and 4 shows that of the 1,556 black students who graduated in 1989, 741 (47.6%) received program services. This is the highest percentage in any of the ethnic categories. Table 5 shows the years of birth of pupils who were served.

Table 4

Gender and Ethnic Group Distribution
of 1989 Graduates Served by Title I/Chapter 1

		Ethnic Group					
Gender		Non-Minority	Black	Spanish Surname	Asian American	Total N	Total %
Female		137	394	1	6	538	51.5
Male		147	347		13	507	48.5
Total	N	284	741	1	19	1045	
	%	27.2	70.9	.1	1.8		100.0

Table 5

Year of Birth of 1989 Graduates
Served by Title I/Chapter 1

Year of Birth	Number of Pupils	Percent of Graduates
1967	3	.3
1968	10	1.0
1969	87	8.3
1970	427	40.9
1971	512	49.0
1972	6	.6
Total	1045	100.0

The numbers of years of program service and treatment were distributed as shown in Table 6. Since both reading and mathematics programs were offered, most data will be reported as it pertains to any Title I/Chapter 1 Program as well as separated by instructional area. Tables 7 and 8 show the numbers of years of service and treatment in reading and mathematics programs. The average numbers of years of involvement in the resulting six categories are displayed in Table 9. Note that Table 9 excludes those pupils who had zero years of involvement of the type designated.

Table 6

Number of Years of Program Service and Treatment of 1989 Graduates

No. of Years	Program Service N	Program Service %	Program Treatment N	Program Treatment %
0	2253	68.3	2408	73.0
1	448	13.6	441	13.4
2	270	8.2	232	7.0
3	159	4.8	126	3.8
4	90	2.7	55	1.7
5	41	1.2	22	.7
6	20	.6	10	.3
7	10	.3	2	.1
8	6	.2	1	.0
9	1	.0	1	.0
Total	3298	100.0	3298	100.0

Table 7

Number of Years of Reading Service and Treatment of 1989 Graduates

No. of Years	Reading Service N	Reading Service %	Reading Treatment N	Reading Treatment %
0	2318	70.3	2464	74.7
1	429	13.0	420	12.7
2	255	7.7	222	6.7
3	146	4.4	111	3.4
4	81	2.5	49	1.5
5	35	1.1	19	.6
6	18	.5	9	.3
7	11	.3	3	.1
8	5	.2	1	.0
Total	3298	100.0	3298	100.0

Table 8

Number of Years of Mathematics
Service and Treatment of 1989 Graduates

No. of Years	Mathematics Service N	Mathematics Service %	Mathematics Treatment N	Mathematics Treatment %
0	3058	92.7	3125	94.8
1	222	6.7	165	5.0
2	18	.5	8	.2
Total	3298	100.0	3298	100.0

Table 9

Average Years of Involvement
of 1989 Graduates by Program Category

Program Category	Number of Pupils	Average Number of Years	Standard Deviation
Program Service	1045	2.2	1.4
Program Treatment	890	1.9	1.2
Reading Service	980	2.1	1.4
Reading Treatment	834	1.9	1.2
Mathematics Service	240	1.1	.3
Mathematics Treatment	173	1.0	.2

Beginning in the 1981 school year, Columbus Public Schools used a middle school (as opposed to junior high school) grade organization. With the exception of one sixth-grade student in 1980, all program involvement of the graduates in this study took place under the elementary and middle school structure. The following tables are provided as an overview of the combinations of program involvement at elementary and middle school levels. Notice that 10 of the pupils who received reading service in middle school only also received mathematics service in elementary school, while 9 of them received that combination of program treatment. Also, 175 pupils received both reading and mathematics service while 117 received treatment in both instructional areas.

Table 10

Level and Instructional Area of
Title I/Chapter 1 Program Service of 1989 Graduates

Level	Reading N	Reading %	Mathematics N	Mathematics %	Reading or Mathematics N	Reading or Mathematics %
Elementary Only	622	63.5	240	100.0	687	65.7
Middle Only	127	13.0			117	11.2
Elementary & Middle	231	23.6			241	23.1
Total	980	100.0	240	100.0	1045	100.0

Table 11

Level and Instructional Area of
Title I/Chapter 1 Program Treatment of 1989 Graduates

Level	Reading N	Reading %	Mathematics N	Mathematics %	Reading or Mathematics N	Reading or Mathematics %
Elementary Only	536	64.3	173	100.0	592	66.5
Middle Only	117	14.0			108	12.1
Elementary & Middle	181	21.7			190	21.3
Total	834	100.0	173	100.0	890	100.0

As one might expect given the range of birth years of the graduates who received program service, pupils involved in Title I/Chapter 1 were in as many as six different grades during a single year of the study. Patterns of service and treatment were devised under the assumption that the years during which a pupil was involved in programs are less informative than are the grade levels of a pupil at the time of involvement. Thus, a pupil served as a third-grader in 1978 is tabulated the same as one served as a third-grader in 1980. Also, the first is tabulated differently from a pupil served as a first-grader in 1978. Categories based on grade level as opposed to calendar year substantially reduced the number of distinct patterns of service and treatment, yet the number of pupils with most of the resulting patterns is so small as to be of limited interest. The patterns exhibited by more than one percent of served or treated pupils are displayed in Table 12, and complete tabulations are provided in Tables A-1 and A-2 of the Appendix.

Table 12

Patterns of Title I/Chapter 1 Program Involvement
of 1989 Graduates in Descending Order of Frequency

Program Service			Program Treatment		
Grade Pattern	N	%	Grade Pattern	N	%
4	100	9.6	4	100	11.2
K	71	6.8	K	63	7.1
5	61	5.8	1	60	6.7
6	58	5.6	6	55	6.2
1	55	5.3	2	54	6.1
2	52	5.0	5	53	6.0
K 1	36	3.4	K 1	29	3.3
4 5	24	2.3	7	28	3.1
7	20	1.9	3 4	20	2.2
3	20	1.9	3	18	2.0
2 4	17	1.6	2 4	17	1.9
1 2	17	1.6	4 5	14	1.6
3 4	17	1.6	4 6	13	1.5
K 1 2	17	1.6	4 5 6	13	1.5
6 7	16	1.5	K 4	13	1.5
K 4	14	1.3	1 2	12	1.3
2 3	14	1.3	5 6	12	1.3
4 5 6	12	1.1	K 2	10	1.1
5 6	11	1.1	8	10	1.1
8	11	1.1	2 3	9	1.0
			K 1 2	9	1.0

To consolidate patterns to more meaningful categories, elementary and middle school patterns were tabulated separately. Tables 13 through 20 display patterns of service and treatment for elementary reading programs, elementary mathematics programs, elementary programs across instructional areas, and middle school reading programs. The patterns are grouped by the number of years of involvement that the pupil experienced while in Columbus Public Schools. Each pattern is followed by the number of pupils exhibiting that pattern and the percent that is of the pupils in that table. Subtotals for the different numbers of years of involvement are supplied as well.

The reader who is interested in, for example, subsequent program service of the 21 pupils with elementary service pattern K 1 2 (Table 17) can refer to Table A-1 in the appendix. There one learns that 17 of the pupils had no program service during middle school (column 2, line 3) while 3 had program service in grade 6 and 1 had program service in grade 7 (column 3, lines 5 and 6). Follow-up of program treatment can be accomplished in the same fashion using appendix Table A-2.

Table 13

Patterns of Title I/Chapter 1 Elementary Reading Service

Grade Pattern	No. of Pupils	Percent of Pupils
K	92	10.8
1	68	8.0
2	75	8.8
3	36	4.2
4	83	9.7
5	50	5.9
	404	47.4
K 1	46	5.4
K 2	16	1.9
K 3	3	.4
K 4	8	.9
K 5	3	.4
1 1	5	.6
1 2	27	3.2
1 3	9	1.1
1 4	10	1.2
1 5	7	.8
2 2	1	.1
2 3	19	2.2
2 4	16	1.9
2 5	6	.7
3 4	19	2.2
3 5	5	.6
4 5	41	4.8
5 5	1	.1
	242	28.4
K K 1	2	.2
K 1 1	6	.7
K 1 2	27	3.2
K 1 3	6	.7
K 1 4	5	.6
K 1 5	1	.1
K 2 3	1	.1
K 2 4	6	.7
K 2 5	1	.1
K 3 4	4	.5
K 4 5	1	.1
1 1 2	2	.2
1 2 2	1	.1
1 2 3	4	.5
1 2 4	3	.4
1 2 5	3	.4
1 3 4	5	.6
1 3 5	1	.1
1 4 5	8	.9
2 2 5	1	.1
2 3 4	11	1.3
2 3 5	3	.4
2 4 5	3	.4
3 4 5	8	.9
3 5 5	1	.1
4 4 5	1	.1
4 5 5	1	.1
	116	13.6
K 1 1 2	1	.1
K 1 1 3	1	.1
K 1 2 3	7	.8
K 1 2 4	1	.1
K 1 2 5	2	.2
K 1 3 4	4	.5
K 1 3 5	1	.1
K 1 4 5	1	.1
K 2 2 3	2	.2
K 2 3 4	2	.2
K 2 3 5	1	.1
K 2 4 5	1	.1
K 3 4 5	1	.1
1 1 2 5	1	.1
1 2 3 4	6	.7
1 2 3 5	3	.4
1 2 4 5	4	.5
1 3 4 5	3	.4
2 3 4 4	1	.1
2 3 4 5	12	1.4
3 3 4 4	1	.1
3 4 5 5	1	.1
	57	6.7
K K 2 3 3	1	.1
K 1 2 2 3	1	.1
K 1 2 3 4	4	.5
K 1 2 3 5	2	.2
K 1 2 4 5	6	.7
K 1 3 3 4	1	.1
K 1 3 4 5	1	.1
K 2 3 4 5	2	.2
K 2 3 5 5	1	.1
1 2 3 4 5	2	.2
1 3 4 5 5	1	.1
2 3 3 4 5	1	.1
	23	2.7
K 1 1 2 3 4	1	.1
K 1 1 2 4 5	3	.4
K 1 2 3 4 5	2	.2
K 1 2 3 5 5	1	.1
K 1 3 4 4 5	1	.1
1 1 2 3 4 5	1	.1
1 2 3 4 4 5	1	.1
	10	1.2
K 1 2 3 4 5 5	1	.1
	1	.1
Total	853	100.0

Table 14

Patterns of Title I/Chapter 1 Elementary Reading Treatment

Grade Pattern	No. of Pupils	Percent of Pupils
K	86	12.0
1	71	9.9
2	73	10.2
3	34	4.7
4	89	12.4
5	45	6.3
	398	55.5
K 1	37	5.2
K 2	13	1.8
K 3	1	.1
K 4	7	1.0
K 5	3	.4
1 1	4	.6
1 2	19	2.6
1 3	7	1.0
1 4	5	.7
1 5	7	1.0
2 2	1	.1
2 3	13	1.8
2 4	15	2.1
2 5	6	.8
3 4	22	3.1
3 5	4	.6
4 5	31	4.3
5 5	1	.1
	196	27.3
K K 1	2	.3
K K 2	1	.1
K 1 1	5	.7
K 1 2	14	2.0
K 1 3	4	.6
K 1 4	1	.1
K 1 5	1	.1
K 2 3	2	.3
K 2 4	4	.6
K 2 5	1	.1
K 3 4	1	.1
K 4 5	1	.1
1 1 2	2	.3
1 2 3	4	.6
1 2 5	3	.4
1 3 4	7	1.0
1 3 5	2	.3
1 4 5	5	.7
2 3 4	7	1.0
2 3 5	5	.7
2 4 5	1	.1
3 4 5	4	.6
	77	10.7
K 1 1 2	1	.1
K 1 2 3	8	1.1
K 1 2 4	2	.3
K 1 3 4	1	.1
K 1 4 5	2	.3
K 2 3 4	3	.4
K 2 3 5	1	.1
K 2 4 5	1	.1
K 2 5 5	1	.1
K 3 4 5	2	.3
1 1 2 5	1	.1
1 2 3 4	2	.3
1 2 3 5	1	.1
1 2 4 5	1	.1
1 3 3 4	1	.1
2 3 4 5	5	.7
	33	4.6
K 1 1 2 3	1	.1
K 1 2 2 3	1	.1
K 1 2 3 5	2	.3
K 1 2 4 5	3	.4
K 1 3 4 5	1	.1
K 1 4 4 5	1	.1
K 2 3 4 5	2	.3
1 1 2 4 5	1	.1
	12	1.7
K 1 2 3 5 5	1	.1
	1	.1
Total	717	100.0

Table 15

Patterns of Title I/Chapter 1
Elementary Mathematics Service

Grade Pattern	No. of Pupils	Percent of Pupils
4	157	65.4
5	65	27.1
	222	92.5
4 5	18	7.5
	18	7.5
Total	240	100.0

Table 16

Patterns of Title I/Chapter 1
Elementary Mathematics Treatment

Grade Pattern	No. of Pupils	Percent of Pupils
4	117	67.6
5	48	27.7
	165	95.4
4 5	8	4.6
	8	4.6
Total	173	100.0

Table 17

Patterns of Title I/Chapter 1 Elementary Service

Grade Pattern	No. of Pupils	Percent of Pupils
K	82	8.8
1	59	6.4
2	62	6.7
3	29	3.1
4	121	13.0
5	82	8.8
	435	46.9
K 1	39	4.2
K 2	13	1.4
K 3	3	.3
K 4	16	1.7
K 5	4	.4
1 1	5	.5
1 2	21	2.3
1 3	9	1.0
1 4	13	1.4
1 5	8	.9
2 2	1	.1
2 3	16	1.7
2 4	21	2.3
2 5	8	.9
3 4	23	2.5
3 5	7	.8
4 5	46	5.0
5 5	1	.1
	254	27.4
K K 1	2	.2
K 1 1	6	.6
K 1 2	21	2.3
K 1 3	4	.4
K 1 4	10	1.1
K 1 5	1	.1
K 2 3	1	.1
K 2 4	8	.9
K 2 5	1	.1
K 3 4	4	.4
K 4 5	2	.2
1 1 2	2	.2
1 2 2	1	.1
1 2 3	4	.4
1 2 4	4	.4
1 2 5	7	.8
1 3 4	5	.5
1 3 5	1	.1
1 4 5	13	1.4
2 2 5	1	.1
2 3 4	12	1.3
2 3 5	4	.4
2 4 5	9	1.0
3 4 5	9	1.0
3 5 5	1	.1
4 4 5	1	.1
4 5 5	1	.1
	135	14.5
K 1 1 2	1	.1
K 1 2 3	4	.4
K 1 2 4	6	.6
K 1 2 5	2	.2
K 1 3 4	5	.5
K 1 3 5	1	.1
K 1 4 5	3	.3
K 2 2 3	2	.2
K 2 3 4	2	.2
K 2 3 5	1	.1
K 2 4 5	2	.2
K 3 4 5	1	.1
1 1 2 5	1	.1
1 2 3 4	5	.5
1 2 3 5	3	.3
1 2 4 5	5	.5
1 3 4 5	3	.3
2 3 4 4	1	.1
2 3 4 5	13	1.4
3 3 4 4	1	.1
3 4 5 5	1	.1
	63	6.8
K K 2 3 3	1	.1
K 1 1 3 4	1	.1
K 1 2 3 4	6	.6
K 1 2 3 5	2	.2
K 1 2 4 5	7	.8
K 1 3 4 5	2	.2
K 2 3 4 5	2	.2
K 2 3 5 5	1	.1
1 2 3 4 5	3	.3
1 3 4 5 5	1	.1
2 3 3 4 5	1	.1
	27	2.9
K 1 1 2 3 4	1	.1
K 1 1 2 4 5	3	.3
K 1 2 3 4 5	2	.2
K 1 2 3 5 5	1	.1
K 1 3 3 4 5	1	.1
K 1 3 4 4 5	1	.1
1 1 2 3 4 5	1	.1
1 2 3 4 4 5	1	.1
	11	1.2
K 1 2 2 3 4 5	1	.1
K 1 2 3 4 5 5	2	.2
	3	.3
Total	928	100.0

Table 18

Patterns of Title I/Chapter 1 Elementary Treatment

Grade Pattern	No. of Pupils	Percent of Pupils
K	74	9.5
1	65	8.3
2	62	7.9
3	29	3.7
4	125	16.0
5	71	9.1
	426	54.5
K 1	33	4.2
K 2	12	1.5
K 3	1	.1
K 4	17	2.2
K 5	3	.4
1 1	4	.5
1 2	16	2.0
1 3	7	.9
1 4	8	1.0
1 5	8	1.0
2 2	1	.1
2 3	12	1.5
2 4	19	2.4
2 5	10	1.3
3 4	25	3.2
3 5	4	.5
4 5	34	4.3
5 5	1	.1
	215	27.5
K K 1	2	.3
K K 2	1	.1
K 1 1	5	.6
K 1 2	13	1.7
K 1 3	2	.3
K 1 4	4	.5
K 1 5	1	.1
K 2 3	2	.3
K 2 4	5	.6
K 2 5	1	.1
K 3 4	1	.1
K 4 5	3	.4
1 1 2	2	.3
1 2 3	4	.5
1 2 4	1	.1
1 2 5	5	.6
1 3 4	7	.9
1 3 5	1	.1
1 4 5	7	.9
2 3 4	7	.9
2 3 5	4	.5
2 4 5	4	.5
3 4 4	1	.1
3 4 5	5	.6
	88	11.3
K 1 1 2	1	.1
K 1 2 3	6	.8
K 1 2 4	3	.4
K 1 3 4	2	.3
K 1 3 5	1	.1
K 1 4 5	3	.4
K 2 3 4	3	.4
K 2 3 5	1	.1
K 2 4 5	1	.1
K 2 5 5	1	.1
K 3 4 5	2	.3
1 1 2 5	1	.1
1 2 3 4	1	.1
1 2 3 5	1	.1
1 2 4 5	1	.1
1 3 5 5	1	.1
2 3 4 5	7	.9
	36	4.6
K 1 1 2 3	1	.1
K 1 2 3 4	2	.3
K 1 2 3 5	2	.3
K 1 2 4 5	3	.4
K 1 3 4 5	1	.1
K 1 4 4 5	1	.1
K 2 3 4 5	2	.3
1 1 2 4 5	1	.1
1 2 3 4 5	1	.1
1 3 3 4 5	1	.1
	15	1.9
K 1 2 3 5 5	1	.1
	1	.1
K 1 2 2 3 4 5	1	.1
	1	.1
Total	782	100.0

Table 19

Patterns of Title I/Chapter 1
Middle School Reading Service

Grade Pattern	No. of Pupils	Percent of Pupils
6	194	54.2
7	62	17.3
8	18	5.0
	274	76.5
6 6	9	2.5
6 7	48	13.4
6 8	7	2.0
7 7	1	.3
7 8	9	2.5
	74	20.7
6 6 7	1	.3
6 7 8	6	1.7
	7	2.0
6 6 7 7	1	.3
6 7 7 8	2	.6
	3	.8
Total	358	100.0

Table 20

Patterns of Title I/Chapter 1
Middle School Reading Treatment

Grade Pattern	No. of Pupils	Percent of Pupils
6	170	57.0
7	66	22.1
8	14	4.7
	250	83.9
6 6	7	2.3
6 7	23	7.7
6 8	6	2.0
7 7	1	.3
7 8	6	2.0
	43	14.4
6 6 7	1	.3
6 7 8	3	1.0
	4	1.3
6 7 7 8	1	.3
	1	.3
Total	298	100.0

Summary

Nearly one third (31.7%) of all 1989 graduates of Columbus Public Schools received Title I/Chapter 1 services during their educational careers, and more than one fourth (27.0%) received program treatment. For the 1,045 pupils who were served by a program, the average of their years of involvement was 2.2 years and reached a maximum of nine years. More than half of those served were served for two or more years, and almost one third were served for at least three years. The pupil with nine years of service qualified as having received program treatment during all nine years. For the 890 pupils who received program treatment, the average of their years of treatment was 1.9. Again, more than half of these pupils received treatment during more than one year while one fourth received three or more years of program treatment.

Patterns of program service and treatment varied greatly. Among the factors contributing to this are the following: program availability changed from year to year, some pupils were retained in grade, graduates were in different grades from each other in a given year, and program involvement for these pupils spanned 11 years. Almost one tenth of all graduates who received program services were served only in grade 4, and no other grade pattern occurred as frequently. Each pattern consisting of a single grade was among the 20 most common. The most often experienced grade pattern including more than one year was a combination of kindergarten and grade 1. This pattern occurred 36 times which accounted for 3.4% of the 1,045 graduates who received program services. Patterns of program treatment are similarly summarized. Grade 4 only occurred most often, accounting for 100 (11.2%) of the 890 graduates who received program treatment. All single-grade patterns were again among the 20 most common, and kindergarten and grade 1 was the most frequent of patterns involving more than one year.

Appendix

Table A-1

Patterns of Title I/Chapter 1 Service

Grade Pattern	No. of Pupils
K	71
1	55
2	52
3	20
4	100
5	61
6	58
7	20
8	11
	448
K 1	36
K 2	10
K 3	1
K 4	14
K 5	3
K 6	8
K 7	1
1 1	5
1 2	17
1 3	6
1 4	10
1 5	5
1 6	2
2 2	1
2 3	14
2 4	17
2 5	6
2 6	6
2 7	1
2 8	3
3 4	17
3 5	4
3 6	5
3 7	4
4 5	24
4 6	8
4 7	4
5 6	11
5 7	5
6 6	1
6 7	16
6 8	4
7 8	1
	270

Grade Pattern	No. of Pupils
K K 1	2
K 1 1	3
K 1 2	17
K 1 3	3
K 1 4	8
K 1 5	1
K 1 6	2
K 1 7	1
K 2 3	1
K 2 4	5
K 2 5	1
K 2 6	2
K 2 7	1
K 3 4	2
K 3 6	2
K 4 5	1
K 4 6	1
K 5 7	1
K 6 7	2
1 1 2	2
1 2 2	1
1 2 3	1
1 2 4	3
1 2 5	4
1 2 6	2
1 3 4	4
1 3 6	3
1 4 5	4
1 4 6	1
1 5 6	2
1 6 6	1
1 6 7	1
2 2 5	1
2 3 4	8
2 3 5	3
2 3 7	1
2 3 8	1
2 4 5	6
2 4 6	3
2 5 6	1
2 5 7	1
3 4 5	6
3 4 6	2
3 4 7	2
3 5 6	2
3 5 7	1
4 4 5	1
4 5 6	12
4 5 7	4
4 6 6	1
4 6 7	4
4 7 8	4
5 5 6	1
5 6 7	4
5 7 8	1
6 6 7	1
6 7 8	3
	159

Table A-1 (continued)

Patterns of Title I/Chapter 1 Service

Grade Pattern	No. of Pupils
K 1 1 2	1
K 1 1 6	3
K 1 2 3	3
K 1 2 4	3
K 1 2 6	3
K 1 2 7	1
K 1 3 4	5
K 1 3 6	1
K 1 4 5	3
K 1 4 6	1
K 1 4 7	1
K 2 2 3	1
K 2 4 5	1
K 2 4 6	2
K 2 4 8	1
K 3 4 6	1
K 4 5 7	1
1 2 3 4	3
1 2 3 6	2
1 2 3 7	1
1 2 4 5	3
1 2 4 6	1
1 2 5 6	2
1 2 6 7	1
1 2 7 8	1
1 3 4 5	1
1 3 4 6	1
1 3 5 6	1
1 4 5 6	3
1 4 5 7	5
1 4 6 7	1
1 4 6 8	1
1 5 6 7	1
2 3 4 4	1
2 3 4 5	5
2 3 4 6	2
2 3 4 7	2
2 3 5 6	1
2 4 5 6	3
2 4 6 7	1
3 4 5 5	1
3 4 5 6	3
3 4 6 7	2
3 5 5 6	1
4 5 5 6	1
4 5 6 6	1
4 5 6 7	3
4 5 6 8	1
6 6 7 7	1
6 7 7 8	1
	90

Grade Pattern	No. of Pupils
K 1 1 3 4	1
K 1 2 3 4	4
K 1 2 3 5	1
K 1 2 4 5	4
K 1 2 4 6	2
K 1 2 5 6	2
K 1 3 4 5	2
K 1 3 5 6	1
K 2 2 3 6	1
K 2 3 4 6	1
K 2 3 4 7	1
K 2 3 5 5	1
K 2 3 5 6	1
K 2 4 5 6	1
K 3 4 6 7	1
K 4 6 7 8	1
1 2 3 4 5	1
1 2 3 4 6	2
1 2 3 5 7	1
1 2 3 5 8	1
1 2 5 6 6	1
1 3 4 5 6	1
1 4 5 7 8	1
2 3 3 4 5	1
2 3 4 5 6	4
2 3 4 5 7	1
3 3 4 4 6	1
4 5 6 7 8	1
	41
K K 2 3 3 6	1
K 1 1 2 3 4	1
K 1 2 3 4 6	1
K 1 2 3 5 6	1
K 1 2 4 5 6	2
K 1 2 4 6 6	1
K 1 3 3 4 5	1
K 1 3 4 4 5	1
K 2 3 4 5 6	1
K 3 4 5 6 7	1
1 1 2 3 4 5	1
1 1 2 5 6 8	1
1 2 3 4 5 7	1
1 2 3 5 6 6	1
1 2 4 5 6 7	2
1 3 4 5 6 6	1
2 3 4 5 6 7	2
	20

Table A-1 (continued)

Patterns of Title I/Chapter 1 Service

Grade Pattern	No. of Pupils	Grade Pattern	No. of Pupils
K 1 1 2 4 5 6	2	K 1 1 2 4 5 6 7	1
K 1 2 3 4 5 6	1	K 1 2 3 4 5 5 6	1
K 1 2 3 4 6 7	1	K 1 2 3 4 5 5 8	1
K 1 2 4 5 7 8	1	K 1 2 3 4 5 6 7	1
K 2 3 4 5 6 6	1	K 1 2 3 5 5 6 7	1
1 2 3 4 4 5 6	1	K 1 2 3 6 7 7 8	1
1 2 3 4 5 6 7	1		6
1 3 4 5 5 6 7	1		
2 3 4 5 6 7 8	1	K 1 2 2 3 4 5 7 7	1
	10		1
		Total	1045

Table A-2

Patterns of Title I/Chapter 1 Treatment

Grade Pattern	No. of Pupils
K	63
1	60
2	54
3	18
4	100
5	53
6	55
7	28
8	10
	441
K 1	29
K 2	10
K 4	13
K 5	3
K 6	8
K 7	3
1 1	3
1 2	12
1 3	3
1 4	6
1 5	4
1 6	1
1 7	2
2 2	1
2 3	9
2 4	17
2 5	6
2 6	6
2 7	1
2 8	1
3 4	20
3 5	2
3 6	6
3 7	5
4 5	14
4 6	13
4 7	5
4 8	1
5 6	12
5 7	4
6 6	2
6 7	6
6 8	3
7 8	1
	232
K K 1	2
K 1 1	5
K 1 2	9
K 1 3	2
K 1 4	3
K 1 5	1
K 1 6	3
K 1 7	1
K 2 3	2
K 2 4	3
K 2 6	2
K 3 6	1
K 4 5	2
K 4 6	2
K 4 7	1
1 1 2	2
1 1 6	1
1 2 3	1
1 2 4	1
1 2 5	3
1 2 6	3
1 3 4	5
1 3 6	4
1 4 5	3
1 4 6	1
1 5 6	3
1 5 7	1
1 6 6	1
1 6 8	1
2 3 4	5
2 3 5	2
2 3 7	2
2 3 8	1
2 4 5	4
2 4 6	1
2 5 6	2
2 5 7	1
3 4 4	1
3 4 5	5
3 4 6	2
3 4 7	1
3 5 6	2
4 5 6	13
4 5 7	3
4 6 7	3
4 7 8	3
5 5 6	1
5 6 7	1
5 7 8	1
6 6 7	1
6 7 8	2
	126

Table A-2 (continued)

Patterns of Title I/Chapter 1 Treatment

Grade Pattern	No. of Pupils
K K 2 6	1
K 1 1 2	1
K 1 2 3	5
K 1 2 4	1
K 1 2 6	2
K 1 2 7	2
K 1 3 4	2
K 1 3 5	1
K 1 4 5	3
K 1 4 6	1
K 2 3 4	1
K 2 4 6	1
K 2 4 8	1
K 2 5 5	1
K 2 5 6	1
K 3 4 5	1
K 3 4 6	1
K 4 5 7	1
K 4 6 8	1
1 2 3 4	1
1 2 3 6	1
1 2 3 7	2
1 2 5 6	2
1 2 6 7	1
1 3 4 6	2
1 3 5 5	1
1 3 5 6	1
1 4 5 7	1
1 4 6 7	1
2 3 4 5	3
2 3 4 6	2
2 3 5 6	1
2 3 5 7	1
2 4 6 7	1
2 5 6 6	1
3 4 6 7	2
4 5 6 7	2
4 5 7 8	1
	55

Grade Pattern	No. of Pupils
K 1 1 2 3	1
K 1 2 3 4	2
K 1 2 3 5	1
K 1 2 4 6	1
K 1 3 4 5	1
K 1 4 4 5	1
K 2 3 4 5	1
K 2 3 4 6	1
K 2 3 5 6	1
K 2 4 5 6	1
1 1 2 4 5	1
1 2 3 4 5	1
1 2 4 5 7	1
1 3 3 4 5	1
1 4 5 6 6	1
1 4 5 6 7	2
2 3 4 5 6	3
4 5 6 7 8	1
	22
K 1 2 3 5 6	1
K 1 2 4 5 6	3
K 1 2 4 6 6	1
K 2 3 4 6 7	1
K 3 4 5 6 7	1
1 1 2 5 6 8	1
1 2 3 5 6 6	1
2 3 4 5 6 7	1
	10
K 1 2 3 5 5 6	1
K 2 3 4 5 6 7	1
	2
K 1 2 3 6 7 7 8	1
	1
K 1 2 2 3 4 5 7 7	1
	1
Total	890